ABSTRACT OF THE DISCLOSURE

A seed layer structure for improved crystallographic orientation of grains in a hard magnetic material is disclosed. The seed layer structure is comprised of alternating layers of a metal and a dielectric. Hard magnetic materials deposited on the seed layer structure have superior properties and performance in providing hard bias to a ferromagnetic layer in a magnetic sensor. The seed layer structure also accommodates a relatively large total thickness, which is preferable in magnetic sensors with an ultra contiguous junction arrangement.